



State of Vermont

Environmental, Safety and Occupational Health Criteria for Custodial Products

The State of Vermont is a national leader in the development and application of Environmentally Responsible Purchasing and control of Hazardous Material Use. Through the extension of The Department of Buildings and General Services Environmental Management Policy, we have established specific goals and objectives aimed at; providing sound environmental stewardship, protection of human health, reducing state operating expenses associated with the use and control of regulated hazardous materials, and reduction of potential liability attributable to environmental impact. Therefore, the following environmental criteria were developed for use in a wide variety of state contracts, including these specifications for custodial cleaning products and services contracts.

1. Identification of Custodial Products and Certification of Mandatory Product Criteria

Prior to contract award, the successful bidder must identify all custodial cleaning products proposed for consideration by the state. Information that must be provided includes product name, manufacturer name, and product type. (Examples of product type include glass cleaner, toilet bowl cleaner, tub/tile cleaner, air freshener, furniture polish, spot remover, floor finish, disinfectant, and graffiti remover.) In addition, the apparent successful bidder must submit documentation that provides proof that all ingredients, both active and inert, in each of the janitorial products identified for use by or in execution of a contract with the state, adhere to the criteria specified in the attached appendix. Required documentation includes a completed *Manufacturer's Product Assessment Tool* (MPAT) following the guidelines contained in Appendix A, and a *Material Safety Data Sheet* for each product intended to be used by, or procured from the bidder in providing janitorial products or services to the state. Failure to provide/submit this information along with all proposals will be considered grounds for bid rejection.

2. Critical Product Exclusion Criteria

The following product criteria are mandatory for environmental, safety and occupational health responsible cleaning products used by contractors or cleaning product purveyors in support of

State of Vermont custodial activities and use within state facilities.¹ Failure of a product to meet any of the criteria listed below, or failure to submit acceptable verification that a product meets these criteria, may lead to the automatic rejection of the bid. All answers should pertain to the product in its diluted or ready-to-use state. Shaded boxes listed below contain references for the Critical Product Exclusion Criteria contained in the *MPAT*. The other non-critical criteria (Reference Section 3) contained in the *MPAT* are intended to assist state purchasing and environmental and occupational health personnel to better select safe and environmentally sound cleaning materials.

a) No Persistent, Bioaccumulative And Toxic Chemicals

The State of Vermont believes that these chemicals are no longer required in most cleaning products and wishes to protect human health and the environment by minimizing use of such chemicals.

- No ingredient shall be on EPA's Superfund Amendments and Re-authorization Act (SARA) Title III, Section 313 list of toxic release inventory chemicals.
(NOTE: biocides in disinfectants are exempt from this criterion.) **AND**
- Additionally, no product shall contain alkylphenol ethoxylates (APE's) above trace amounts. The State recognizes that the breakdown products of APE's bioaccumulate in the environment. Further, there is potential danger to wildlife and humans when hormonal mimics like APE's are released into the environment.

A list of the Toxic Release Inventory chemicals (*EPA's Superfund Amendments and Reauthorization Act (SARA) Title II, Section 313 list*) can be found at:
<http://www.epa.gov/opptintr/tri/chemls2.pdf>

See Appendix B for a non-inclusive list of APE's.

b) No Carcinogens, Mutagens And Teratogens

In order to protect human health and the environment, no ingredient shall be classified as a known or probable carcinogen, mutagen, or teratogen on any of the following lists:

- Latest edition of the Annual Report on Carcinogens, National Toxicology Program (NTP)
- International Agency for Research on Cancer (IARC), Group 1, 2A or 2B
- Occupational Safety and Health Administration (OSHA) regulated carcinogens

AND

Additional restricted substances that are highly toxic and/or suspected carcinogens that shall not be present in a product beyond trace amounts are:

- paradichlorobenzene, CAS 106-46-7

¹ The State reserves the right to make exceptions to the criteria on a case-by-case basis if no products meeting these criteria can be found that will address the State's need in a particular situation.

- 1, 4-dioxane, CAS 123-91-1
- sodium hypochlorite, CAS 7681-52-9
- nitrilotriacetic acid (NTA), CAS 139-13-9
- sodium ethylenediamine tetraacetic acid (sodium EDTA), CAS 60-00-4

Known or probable carcinogens, mutagens, or teratogens can be found on any of the following lists:

- *National Toxicology Program (NTP), Latest edition, Annual Report on Carcinogens*

Known Human Carcinogens:

http://ntp-server.niehs.nih.gov/NewHomeRoc/Known_list.html

Reasonably Anticipated to be Human Carcinogens:

http://ntp-server.niehs.nih.gov/NewHomeRoc/RAHC_list.html

- *International Agency for Research on Cancer (IARC), Group 1, 2A or 2B*
<http://193.51.164.11/default.html> (Go to: Complete list of agents, mixtures and exposures evaluated and their classification)
- *Occupational Safety and Health Administration (OSHA)*
http://www.osha-slc.gov/OshStd_toc/OSHA_Std_toc.html
- *American Conference of Governmental Industrial Hygienists (ACGIH)*
<http://www.acgih.org/>

c) No Ozone-Depleting Compounds

In order to prevent ozone depletion, no products shall contain ozone-depleting compounds as identified by the Montreal Protocol.

See *1997 Update of the Handbook for the International Treaties for the Protection of the Ozone Layer*

<http://www.unep.org/ozone/handbook-update.htm>

d) Low Volatile Organic Compounds (VOC's)

Because of the link between VOC's and air pollution, no product shall contain VOC's in concentrations that is equal to or exceed 5 % of the weight of the product.

Examples of VOC's include: benzene, carbon tetrachloride, chlorobenzene, methyl ethyl ketone, and trichloroethylene.

VOC content can also be tested using Test Method 24 or 24A, 40 CFR Part 60, Appendix A.

e) No Hazardous Waste Characteristics

No product, rendered unusable due to circumstances such as expired shelf life or as cleanup from a spill, shall contain compounds that would result in their designation as a hazardous waste as defined in the State of Vermont Hazardous Waste Management Regulations, Subchapter 2, section 7-201 to 7-215. Criteria included in this designation include:

- Inclusion of discarded chemical product list or dangerous waste source list
- Ignitability: flashpoint less than 140 degrees F
- Corrosivity: pH of less than 2.0 or greater than or equal to 12.5
- Reactivity: eight properties that make a chemical likely to cause an explosive or sudden toxic danger
- Toxicity: Fails the Toxic Characteristic Leaching Procedure
- Wastes specifically designated for control: Vermont listed hazardous wastes

See *the State of Vermont Hazardous Waste Regulations:*

<http://www.anr.state.vt.us/dec/wastediv/rcra/hazregs/finalreg/finalreg.htm>

- f) **No Phosphate or Phosphonates:** As required by Vermont State Title 10 § 1381, no household cleansing products may be distributed, sold, offered, or exposed for sale at retail, after 1 April 1978 which contain a phosphorous compound in concentrations in excess of a trace quantity.

g) **No Combination Cleaner-Disinfectants**

The State of Vermont believes that combination cleaner-disinfectant products are ineffective and results in over-use of highly toxic disinfectants. Therefore, no products shall be combination cleaner-disinfectant products.

No combination cleaner-disinfectant products containing a biocide requiring EPA registration as a pesticide.

3. Non-Critical Product Criteria

The non-critical criteria are provided for use as scoreable items that can be rated based upon the presence or absence of a compound, the materials toxicity, physical and chemical characteristics, product formulation, and container recycleability. These items include:

- Vapor pressure of the most volatile product constituent, present in the material at a concentration by weight of 5 % or more. Reference conditions 20 degrees Celsius, and

17.5 mm of mercury. If this is provided as a powder, reference its final formulation or mixed state.

- Inhalation Toxicity: Define the LC₅₀ in parts per million (PPM), 4 hr. inhalation, rat, for the most toxic single compound present in the product that is required to be listed in section II of the MSDS.
- Ingestion Toxicity: Define the LD₅₀ (mg/kg) single oral dose, rat, for the most toxic single compound present in the product that is required to be listed in section II of the MSDS.
- Define the pH of the material as contained on the MSDS. If this is a concentrate, with no pH until mixed with water, define the final pH of the mixture based upon the manufacturers recommended formulation.
- Define the presence (amount) of any volatile organic compounds present in the product at a concentration of less than 5% by weight.
- Skin Absorption: Using the American Conference of Governmental Industrial Hygienists, Documentation of the Threshold Limit Values (TLVs), Define whether any of the materials listed in section II of the MSDS have been designated with a "S" or "Skin" notation.
- Combustible Liquid: Define if the product meets the OSHA criteria as a combustible liquid, reference 29 CFR 1910.106 (a).
- Define whether or not the material contains fragrances and/or dyes, and whether those materials meet the Food and Drug Administration definition of "Food Grade".
- Biodegradability: Define whether each organic ingredient in this product meets the Organization for Economic Development definition of "readily biodegradable". Reference approved tests by the OECD or U.S. EPA. Note: for disinfectants, the biocide is exempt from this test.
- Aquatic Toxicity or Fish Bioconcentration Factor (BCF): Provide the results of any aquatic toxicity testing conducted on this material. An EC₅₀ for Daphnia, fish, or algae can be used to define the appropriate response or an established BCF for fish can be used. Please provide only one response for this category.
- If known, please indicate if 25 % of the provided product is obtained from a renewable resource. Please define the compound or compounds used to base this decision and record it on the appropriate section of the MPAT.

4. Emergency Response Plan (For contract custodial service proposals only)

Prior to contract award, the apparent successful bidder must prepare an Emergency Response Plan addressing actions to be taken to prevent, and respond to emergencies such as accidental spills or employee exposure to janitorial products occurring on State property. The Plan should address hazards posed by the specific products planned for use, work practices to prevent spills/exposures, personal protective equipment to be used on the job, procedures for administering first aid and securing medical assistance to injured workers, emergency phone numbers, and procedures for notifying the Department of General Services when such incidents occur. Failure to provide/submit an acceptable emergency response plan will be grounds for bid rejection.

Appendix A

Manufacturer's Product Assessment Tool (MPAT)

Instructions

- These forms are required of each proposed successful bidder. It must be completed and submitted to the Purchasing Department as part of the proposal package by the bid due date.
- The MPAT is intended to expedite the product assessment and selection process through the use of an automated process, which allows each manufacturer to self evaluate and score each proposed product offered for consideration in the RFP. The MPAT is provided in Appendix C on a floppy disc in Microsoft Excel format. Examples of each of the four worksheets are provided in Appendix D. Please note that in order for a product to be considered, all four of the worksheets must be accurately and factually filled out to the best of the manufacturer's knowledge. Information determined to be inaccurate or incomplete may result in termination for existing and future contract consideration.
- One MPAT series of four worksheets should be completed for each product proposed for submission or in the case of a cleaning contract, for each product proposed for use by employees in support of the custodial service contract. If a product is proposed for multiple applications, please base the assessment on the manufacturer's recommended dilution or formulation. This is intended to be based upon the worst case (most hazardous) condition/ product concentration.
- The Bidder should complete top section and have product manufacturer complete the rest.
- Examples of product description include: glass cleaner, toilet bowl cleaner, tub/tile cleaner/air freshener, furniture polish, carpet/upholstery spot remover, laundry detergent, floor wash, disinfectant, graffiti remover, etc.
- Send copy of the State Environmental, Safety and Occupational Health Criteria to the manufacturer along with the MPAT to provide definitions of the criteria.
- All forms must be signed by an authorized representative of the manufacturer.
- Manufacturer should send completed MPAT forms back to the bidder, who should submit one complete package of all MPAT Forms for all products to the State of Vermont.

- Attach a Material Safety Data Sheet (MSDS) to each completed MPAT package (4 forms) for submittal to the State.

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Appendix B

Partial List of Alkylphenol Ethoxylates²

This list provides examples of alkylphenol ethoxylates (APEs), however it should not be considered a comprehensive list of all APEs. The manufacturer is responsible for ensuring that the ingredients in their product does not contain any APEs.

| I. CAS Number | Chemical Name (s) |
|----------------------|---|
| | |
| 104-35-08 | 4-Nonylphenoxy ethanol |
| 2315-61-9 | p-Octylphenol diethoxylate |
| 2315-62-0 | p-Octylphenol ethoxylate |
| 2315-63-1 | p-Octylphenol ethoxylate |
| 2315-64-2 | p-Octylphenol ethoxylate |
| 2315-67-5 | 2-(4-1,1,3,3-tetramethylbutyl)phenoxy) ethanol |
| 9002-93-1 | p-tert-octylphenoxypolyethoxyethanol |
| 9014-92-0 | Dodecylphenol ethoxylates |
| 9016-45-9 | Nonylphenol polyethylene oxide |
| 9036-19-5 | Octylphenoxypoly (ethoxyethanol) |
| 26027-38-3 | Nonoxynol-9 |
| 27986-36-3 | Nonylphenol monoethoxylate nonylphenoxyglycol (nonylphenoxy)ethanol |

² Source: Environmentally Responsible Custodial Cleaning Products Bid, Contract Number ____, Vermont State Departments of Buildings and General Services (BGS) and Department of Environmental Conservation.

| | |
|------------|------------------------------------|
| 68412-54-4 | C9 Branched alkylphenol ethoxylate |
| 68987-90-6 | C8 Branched alkylphenol ethoxylate |

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Appendix C

Floppy Disk Containing a Copy of the Manufacturer's Product Assessment Tool (MPAT) in *Microsoft Excel*.

Appendix D

Hard Copies of the Four Worksheets comprising the Manufacturer's Product Assessment Tool (MPAT).

Note: *One package (4 forms or worksheets) to be submitted for each cleaning product to be considered.*